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PAPER

Measurement and Structure of Work Meanings West, East and Far East

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Paper prepared for the Symposium
'Values and Work - A Comparative Perspective',
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Measurement and Structure of Work Meanings
West, East and Far East

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The MOW Approach

In 1980 a group of researchers started out to develop and empirically test a model of major constructs which relate individuals to the phenomenon of working. In their major publication (MOW, 1987) they proposed a 'Meaning of Working' model including as central dimensions: Work Centrality, Societal Norms about Working, Valued Working Outcomes and Work Goals. As a result of their empirical investigation, they concluded that the dimensions of the hypothesized Work Meanings model are stable enough across different nations (and occupational groups) to allow for comparisons of means. The research question structural similarities of the meaning of working concept was answered in the following way:

> '..there is a qualitative similarity of 75-90% across the seven countries in the structure of individual work meanings. ' '...'This degree of structural similarity '...'does suggest that there is sufficient structural similarity to make level comparisons of scores across countries meaningful. The three broad content sets of work meanings which have been identified and prove useful in later analyses are, work centrality, societal norms about working, and a set of valued working outcomes and work goal preferences. These are the major building blocks for studying the meaning of working' across different nations' (MOW, 1987, 77).

This assumption was derived from a series of exploratory Factor Analysis which were compared across the different national samples (see Mow, 1987, chapter 4, p. 79 ff).

Short-comings in the original approach and developments since the date of the original publication (MOW 1987) make it worthwhile to reexamine these results:

i) The assumption that the included dimensions are independent of each other (and therefore use orthogonal factor analysis as method of choice) has not been tested as of today. In addition there is no obvious theoretical support for this assumption.

ii) Better methods to test similarities of factor structures (confirmatory factor analysis with the LISREL VII program) are readily available.

iii) The sub-set of scales utilized to investigate the structural properties of the MOW model included several ipsative items, which made it difficult, if not impossible to identify whether resulting bipolar factors in the F.A. solutions can be attributed to 'real variance' or ' 'measurement (error)'.

iv) Additional data from Bulgaria, Hungary, the Czech and Slovak Republics, Poland, and Portugal were collected in the mean-time, and allow for an expanded validity test

Work Meanings: Goals, Centrality and Normative Beliefs

Human activities derive meanings from two basic sources - intend and understanding (Brief & Nord, 1990). To grasp the meaning of an activity like working we need to acquire knowledge about the *purpose or goal* behind the activity (intention) and to explore the sense given to or *knowledge underlying* the activity (understanding). As we will see in the following discussion intention and understanding are interrelated.

'Intention' focuses on 'why people work - what they intend to accomplish by working or what they are looking for'. For most people a valid intention is that they are dependent on the income derived from working for their economic well-being. Still, this is only part of the story. Besides economic reasons, there are other motives or needs that are fulfilled or neglected through working. To mention just a few: Working may offer us possibilities for contacts (social dimension), recognition (self-esteem) and/or can in itself be experienced as interesting and satisfying or boring and dull (expressive dimension). Work may allow or hinder us to use, improve, or learn skills and/or take over challenging responsibilities . Work might help us to live our religious (calling) or moral ideals (social responsibility) and ethics, and hence add meaning to our life.

At first glance, the notion 'intention' seems to postulate that an individuals behavior stems only from purposes (or decisions) preceding their action. An alternative was suggested by Weick (1979). He stated, that attributing purpose to an activity might be a retrospective process. People might construct meaning after the fact to reach congruence with their former actions.

In a similar way 'understanding' or the social construction slice (language generated meaning) of reality (Berger & Luckman, 1966) can be seen as a prospective and/or a retrospective process. Understanding subsumes notions of perceiving 'the (accurate) meaning', having 'thorough knowledge of something', as well as 'an interpreting or construing', using 'a particular interpretation' or sharing 'a mutual agreement of private or tacit kind'. Peoples understanding of working is readily available when they enter the activity, but also changes as consequence of the experience undergone.

How do individuals acquire knowledge about purpose and understanding related to working and their working life? In part, purpose has biological and social roots. Subsidence needs, skill use and energy use can be seen as underlying factors which are biological. In addition, socialization plays an important role. Family, educational institutions, and organizations help their members to get an understanding of their role, of the things expected from a person and the things they can expect in return. They learn what one can achieve with certain activities by experience, observation and social communication. The verbal community influences meaning (social construction of reality) and acceptable or tolerated goals. Most of the understanding about what one can get, will get or the evaluation of what one got, is social. Purpose and goals are influenced by knowledge of other's purpose and goals. In addition context influences goals. As physical demands and design of work changes, so do the goals. Purpose (what one intends to accomplish) originates from personal characteristics as well as perceptions and interpretation of past, present, and future events and needs.The purpose of working changes over time for individuals, groups, and societies as the individual, group or society is changing or perceived as changing. On the macro level, we can assume economic conditions to affect the experience of work and the intentions involved. General expectations of future developments (of the individual, market, society) should relate to people intentions (at work).

Work goals have been distinguished in two major orientations 'intrinsic' and 'extrinsic'. Other labels used include 'content-context' or hygiene-motivators' (Herzberg, 1966) or 'expressive-comfort/economic' (MOW 1987). The intrinsic dimension emphasizes the results and outcomes inherent in the activity of working itself. Important sources are the content and process of work itself (Andrissani & Miljus, 1977). The extrinsic dimension concentrates on the instrumental aspects of work. Work is seen as useful to achieve other valued outcomes outside the domain of working. Working is seen as a means to an end. '...outcomes follow from work, but do not depend on its content or process ... itself.' (Roberson, 1990, 111). As mentioned above working can also serve social or interpersonal needs. This social dimension of working can be seen as distinct from the intrinsic and extrinsic dimension. In general the extrinsic

In summary, work goals partially tap into people's work related intentions and understanding. Work goals are at the center of work meanings, because they express intends to be accomplish by working and/or what a person is looking for during working periods. We can assume that people are able to give relatively informed answers about their work goals, because they are able to use them to select and justify actions related to working and to evaluate work experiences and events.

While work goals refer to the importance evaluation of single outcomes from work , work centrality refers to the importance of the activity or setting of working as a whole.

A related concept is Lodahl and Kejner's (1965) job or work involvement. Work involvement is defined as the extend to which a person's self-esteem is affected by performance in the work situation, and the degree to which persons identify with working, making it a major component of their self-image. Kanungo (1982) pointed out the overlap between the second definition and work centrality. Similar Rabinowitz and Hall (1977) description: People who strongly identify with their job or work, tend to define themselves in terms of their work role. Both positive and negative outcomes are important sources of feedback, influencing beliefs and feelings about the self, and the person's identity. Empirical proof for the overlap between the concepts of job involvement and work centrality are reported by Saleh and Hosek (1976). They conducted a factor analysis which showed high interrelation between both concepts. This aspect of work centrality we refer to as absolute work

centrality, because it is concerned with the importance of working for a person's identity.

Another aspect of work centrality is called relative work centrality (MOW, 1987; Ruiz Quintanilla, 1990). Relative work centrality refers to the relative importance of work as compared to other life roles. Individuals for whom work is of central concern are the ones who believe their most highly valued outcomes are better or easier available in the work setting as compared to other settings like leisure, family, or community activities. Work is important for them because the most valued outcomes in their life come from working (Dubin, 1956). Dubin developed the Central Life Questionnaire (CLI) which operationalized the expressed preference for a given locale in carrying out an activity. With the help of the questionnaire he classified individuals into job-oriented, non-job-oriented, and an undifferentiated group. His results (Dubin, 1956) showed that high proportions of worker were non-job oriented.

Finally, normative beliefs are collective views about what the world should be like. They do not reflect an ideal which is unattainable, but demands imposed on social reality. They are based on communications, customs, and past practices, which -over the years- establish norms of exchange, reciprocity, and behavior. The result is a normative, shared system of collective beliefs, which Rousseau (1916) called a social contract. Such social contracts are cultural, because they are created through past social interaction. Especially in stable, stratified societies they might largely be inherited at birth or acquired by membership.

Their function lies in helping to structure anticipated future events by reducing uncertainty by specifying rights and duties (e.g. define expected behaviors and returns), which have been respected in the past. A departure from the obligation or entitlement norm as specified in the social contract may well lead to some sanction or disadvantage on the side of the actor. (Ruiz Quintanilla & England, 1994). From the viewpoint of the observer, normative beliefs help to evaluate what is fair and just, and if violated can evoke strong reactions.

Cross National Comparison

The comparison of different societies presupposes that there is something to be compared:

That each society is not so unique that any parallel with another society is meaningless.

Throughout the history of cross-cultural studies there has been a dispute between those stressing the unique aspects and those stressing the comparable aspects. The first generally hold that 'you cannot compare apples and oranges', while the second argue that 'apples and oranges are both fruits and can be compared on a multitude of aspects, such as weight, color, nutritive value, or durability', The selection of theses aspects obviously necessitates an a priory theory about what is important in fruits.

In scientific terms the controversy is referred to as the emic-etic distinction (Pike, 1967; Berry, 1969; Ruiz Quintanilla, 1994). Derived from the use of the terms phonemic versus phonetic in linguistics, emic refers to the culture-specific, and etic to the culture-general (universals). While the emic view looks at the phenomena and their interrelationships through the eyes of the people native to a particular structure, and tries to understand from within the uniqueness, the etic approach tries to identify lawful relationships and causal explanations which hold true over different cultures.

Most theories in the social and behavioral science deal with latent constructs which are not directly measurable or observable. Instead indicators of these constructs or variables are collected assuming that they represent the latent constructs. The purpose of a measurement model is to describe how well the observed indicators serve as a measurement instrument for the latent variables. The focus of a measurement model are reliability, validity and similar measurement issues.

As mentioned above the MOW team introduced three concepts, work centrality, work goals, and societal norms as major building blocks in the assessment of work meanings. They concluded that these three concepts are represented by five dimensions (Work centrality, expressive work goals, economic work goals, social work goals, obligation orientation and entitlement orientation). The five dimension in turn were seen to be measured adequately with 25 items (two work centrality measures, seven economic, five expressive, three social, four obligation, and four entitlement) in the seven countries (Belgium, U.S., Netherlands, Germany, Yugoslavia, Israel, Japan).

We will treat the work goal and work centrality dimensions, and the societal norm dimensions in separate analysis. First, we concentrate on how universal the hypothesized correspondence between observable indicators (items) and dimensions (theoretical constructs) of the hypothesized model are. Hence, the emic-etic problem translates into two major research questions. First, does a given set of work meanings measures empirically form the same dimensions across countries? Can we identify and measure pan cultural or universal dimensions of work meanings.

H1: The relations between observable variables (items) and hypothetical constructs (model units) are the same across all samples (nations).

Second, in case the first question can be positively answered for at least a subset of the countries, are the relationships among those work meaning dimensions unique (culture specific) or universal (culture general). Here the question is, can we assume equivalence of the hypothesized relationship (structural model) between the constructs across samples?

H2: Are the interrelationships among the constructs the same for all samples.

Methods

Data and Procedures

Results are based on questionnaire responses from representative and target group samples of the working population in 12 countries totalling over ten thousand respondents (see table 1). Data from Flanders (Belgium), Germany (FRG), the Netherlands, the U.S.A. and Japan were collected in 1981/82 as part of the MOW research project target group study. Portuguese data were collected following the same target group approach in 1988. Finally, surveys of the Polish and Hungarian population were conducted in 1991, and of the Bulgarian, Czech and Slovak population in 1992.

The target group data sets include respondents the following groups: Unemployed, retired, chemical engineers, teachers, self- employed business people, tool and die-makers, white collar employees, textile workers, temporary workers, and students.

National representative samples in Eastern and Central European countries were based on the most recent and accurate statistics available (household data in Poland, individual data in the other countries) using census, state registry, and election registry data.

Interviews were conducted with persons fitting the sample specifications, either target group specifications or within working-age brackets for national samples. All respondents participated voluntarily and all interviews were done by specially trained interviewers.

Construct Measurements

Three work meaning constructs which relate individuals to the phenomenon of working (their working life) are discussed in the following:

- *Work Centrality,* defined as identification with work and the strength of involvement with working. The measuring method used was a combination of an absolute assessment of the importance of working in one's life on a Likert scale and a relative measure of the importance of working in one's life as compared to the importance of other life domains.

- *Important work goals,* defined as salience (importance evaluation) of work rewards. The work goal importance construct was assessed with eleven work goal items, two valued working outcomes and two important work aspects. Thus in total 15 measures using three different response formats were included. Following motivation theory (intrinsic/extrinsic dichotomy) as well as former MOW analysis (MOW 1987, Ruiz Quintanilla 1991) we expected the work goals to fall into four distinct dimensions: pay related goals, economic goals, expressive goals, and social goals.

  In the first measurement approach, individuals were asked to rate/rank eleven work goals in the order of their importance or salience in their work life. The goals included were opportunity to learn, variety, interesting work, autonomy, match between job requirements and abilities (expressive); job security, physical working conditions, opportunity for promotion, and convenient working hours(economic); pay (pay) and good interpersonal relations (social).

The second measurement procedure asked the respondents to distribute a total of hundred points among six statements. The two measures included were a statement concerned with the salience of income (pay) and one expressing the importance of contacts with other people (social).

Finally, we included two measures from a question asking the respondents to rate six important work aspects. The included measures referred to 'people with whom I work' (social) and 'money I receive from work' (pay).

- *Societal norms,* defined as Person's evaluation of the obligations to work and entitlements received from work. We focus on two views derived from individuals' agreement with eight normative statements.

  The obligation norm represents the underlying duties of all individuals to society with respect to working. This includes the notion that everyone should contribute to society by working,should save money from their income for the future, and should value their work independent of its nature.

  The entitlement norm is represented by statements expressing the underlying work rights of individuals and the work-related responsibilities of organizations and the society towards all individuals. Included are notions that all members of a society are entitled to have meaningful and interesting work, to retraining when it is needed and to the right to participate in decisions concerning work methods.

Confirmatory Factor Analyses

Confirmatory factor analysis allows to determine if the measures adequately represent their hypothesized constructs (Long, 1983). Confirmatory factor analysis is particularly well-suited in cases when the investigated dimensions are not independent. In this case it allows to investigate the degree to which each item uniquely loads on their hypothesized dimension, and to which degree the dimensions can be distinguished from one another (Bollen, 1989; Long, 1983).

Sample size plays an important role for confirmatory factor analysis, since it determines

convergence, standard errors, and model fit (Hayduk, 1987; Idaszak, Bottom, & Drasgow, 1988). Bentler (1985) suggested that a sample size to parameter ratio of 5:1 or more is sufficient to achieve reliable estimates in maximum likelihood estimation. Since the sample size to estimated parameter ratio used in testing the hypothesized model was X:1, our sample sizes are clearly adequate for the analyses.

It is important in confirmatory factor analysis to examine the overall fit of the model. In case a model does not fit the data acceptably, the overall hypothesis that the model is an valid representation of the data is rejected. In this case, interpretation of specific parameter estimates in the model may be inappropriate (James, Mulaik & Brett, 1982).

The most widely used measure of fit is the 2 statistic. Its disadvantage is that the 2 is a direct function of the sample size: The probability of rejecting a given model increases as sample size increases. This remains true, even if the model is only minimal false, for example in the case when the residual matrix contains trivial discrepancies between the data and the estimated model (Bentler & Bonnett, 1980). To counteract the 2/sample size relationship, the ratio of 2 relative to the degree of freedom (df) is examined. (Hoetler, 1985; La Du & Tanaka, 1989; Marsh, Balla, & McDonald, 1988). 2/df ratios of 2:1 (Hertig, 1985), 3:1 (Carmines & McIver, 1981), up to 5:1 (Marsh & Hocevar, 1985; Wheaton, Muthen, Alwin, & Summers, 1977) have been claimed to indicate an acceptable fit.

Other goodness of fit indices for the estimation of confirmatory factor analysis results have been discussed in the literature (e.g. Marsh, Balla, & McDonald, 1988; Sobel & Bohrnstedt, 1985; Bentler, & Bonett, 1980; Wheaton, 1987). Among them are the goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root-mean-square residual (RMSR) (Joereskog & Soerbom, 1989), the normed fit index (NFI) (Bentler & Bonnett, 1980), and the Tucker-Lewis index (TLI) (Marsh, Balla, & McDonald, 1988).

The goodness-of-fit index (GFI) is based on the variance and covariance accounted for by the model. The adjusted goodness-of-fit index (AGFI) is a measure of the variance and covariance explained, adjusted for the degrees of freedom of the model. The root mean square residual (RMSR) results from the substraction of the hypothesized covariance matrix

from the sample covariance matrix (Joereskog and Soerbom 1988). The normed fit index (NFI) compares the fit of the model to the null model (in terms of the matrices, when sigma=phi and phi being diagonal) (Bentler and Bonett, 1980). The Tucker-Lewis index (TLI) is similar to the NFI, but incorporates a penalty function dependent on the number of parameters used (Thus results are poorer if more parameters result only in little improvement of the Chi-square). For the GFI, AGFI, and NFI values range between o and 1, with higher values representing better fit. For the RMSR lower values indicate better fit.

March, Balla and McDonald (1988) found in their extensive review that model fit estimates for data from big samples size can best be achieved applying the TLI index, being relative independent of sample sizes distortions. In addition Sobel and Bohrnstedt (1985) discuss that the use of the TLI is to be preferred when the maximum likelihood estimation or generalized least square estimation methods are used, while for the unweighted least square estimation the NFI is recommended as more appropriate. Still, values for all of these fit indices represent only rules of thumb for judging the goodness of the fit of a hypothetical model to empirical data, and the criteria which values are acceptable remains subjective as long as the distributions of most of these goodness-of-fit statistics remain unknown. Therefore, James and James (1989) recommended not to rely on a single index but to consider the statistics cumulatively.

Analyses, Results and Discussion

Work Centrality and Work Goals

Covariance analyses served as input for the LISREL 7 program. Due to space constraints the co-variance and correlation tables are not reported but are available on request.

Table 2 to 6 provide the parameter estimates (factor loadings) of the work goal and work centrality items on their hypothesized dimensions for each of the country samples. Most factor loadings for the five dimensions are relatively low although significant ($p < .05$).

For the Economic goals dimension (table 2) low loadings (.30 to .50) are found for many items across all countries. This indicates that it's less country differences or translation

problems, which should show in country differences but limited measurement qualities which are responsible. The low measurement quality of the economic index is also reflected in the low alphas, which range from .28 to .48 with an average of .37 (see table 7). Possible reasons contributing to this are short scales (4 items in the case of the economic dimension), and a wide range of contents mentioned in the items. Topics included vary from physical conditions over work hours to job security and promotion opportunities, making the index rather heterogenous.

In addition, we find some countries differences. These are reflected in economic items which in some country samples, don't load significantly on the economic dimension. In most of the countries (Flanders, Germany, Netherlands, Bulgaria, Czech and Slovak Republic, Hungary, Slovenia) the job security item shows the highest loading of all items or at least average high loading on the economic dimension. This is not the case in Portugal, the U.S. and Japan, where the security item does not load at all on the economic dimension. Similar for the promotion item the loading is average in Flanders, Germany, Netherlands, and Japan; low in the Czech Republic and Poland, and not significant in Poland, Bulgaria, Hungary, the Slovak Republic, Slovenia and the U.S. In addition mind that the deletion of the promotion item increases the index alpha in nearly all cases with the exception only of Germany and Japan.

For the work goal pay dimension (table 3) we find higher loadings. This is also reflected in the alphas of the scale which range from .51 to .75 with an average value of .65 over all countries. Again the numbers are pretty much in the same range for all the countries reflecting no obvious country differences.

We attribute the higher measurement properties of this index to the stronger homogeneity of the three items. All of them are concerned with the concept of pay, although expressed in different words like pay, income or money from work. Thus, compared to the economic or expressive goal dimension the pay dimension is clearly more homogenous and focused in content. We believe that an additional improvement of the measurement could easily be achieved by adding another one or two items, bringing the measure to four or five. Another reason why the alphas remain below the value of good measures (.80 and higher) might lay with the fact that the three items use three different answering formats.

The social work goal dimension (table 4) is again characterized by low loadings across all countries and low alphas (table 7) ranging between .20 and .55, with an average value of .34. Overall the values seem to be a little higher in the Western countries (Flanders, Germany, the Netherlands, and the U.S) as compared to the other countries. This might indicate that the item formulation was not optimal in some countries, but leaves the option of 'real' country differences open. To test for the possibility of real differences, improvements of the scale are needed to better the poor measurement qualities. We suggest again to get rid of the three different answer formats, and homogenize item formulations, which in the form used include items ranging from interesting contacts (which might include customers), type of people I work with (which includes subordinates), and interpersonal relations including both supervisors and co-workers.

Despite their higher item number (5 items) both the loadings (table 5) and the alphas (table 7) of the expressive goal dimension remain unsatisfactory. The dimension has an average alpha of .50 with a range between .39 and .59. Again the loading differences show up more across items than countries, indicating the measurement short- comings. An exception seems to be the case of Japan, where three of the items (autonomy, variety, and learning) to not contribute at all to the expressive dimension. Similar in Bulgaria, where two items (variety and learning) form a separate factor together with the promotion item.

Again the measurement properties do not allow to test for possible real difference in the expressive goal dimension and a improved scale to be utilized for that purpose should be build around a more homogenous concept of expressive work goals. If the intention is to represent a wide range of expressive goals it might well be that several sub-scales are needed. Looking at the figures the core of what was measured in all countries seems to be nearer to the notion of 'interesting work', as compared to 'learning' or 'good match' which show bigger greater differences.

Finally, for the Work Centrality index, we have obviously to deal with a measurement problem alone because of the fact that it was measured only with two items. In addition as mentioned above these items followed a different answer format. Given this, the resulting loadings, which are very similar across countries, and the index alpha estimations, ranging from .11 to .47 with an average of .34 are low but not surprising. Again the scale needs

improvement to be useful for international comparison. As reported elsewhere (Ruiz Quintanilla, 1994), both items used here load together with the items from a slightly modified Job Involvement scale based on Lodahl & Kejner (1965) measure with respondents from representative samples of Bulgaria, the Czech and Slovak Republic, Hungary, and Poland leading to an average scale alpha in the mid-seventieth.

In Summary, we conclude that comparing the countries over the dimensions, the results moderately support the hypothesis that the specific items load on their hypothesized dimensions for Flanders (Belgium), Germany, the Netherlands, the Czech Republic, and Poland. In the other countries it can not be decided whether the deviation is indicating 'real' country differences or whether poor measurement is to blame. This cases are the following:

In the Slovak Republic and Slovenia all items with one exception load on the hypothesized dimensions. This exception is the promotion item which doesn't load on the economic dimension. Similar in Portugal, where the promotion item does not load on the economic dimension. In addition Portugal lacks the loading of one of the social items (71_B importance of interpersonal relations), which does not load on the social dimension, but on the economic one instead. In the U.S. neither the promotion nor the security item load on the economic dimension, and two of the hypothesized expressive items (71_H importance of good match and 71_A importance of learning opportunities) do not load on the expressive dimension. In Bulgaria the promotion item again does not go with the hypothesized economic dimension, but forms together with the variety and the learning item a separate dimension. In addition one of the social items (67_4 interesting contacts) does not load on the hypothesized factor. In Hungary the promotion item loads on the expressive dimension (and not the economic), while one of the pay items (71_I importance of good pay) loads on the economic dimension. In addition, one of the social items (69_D type of people) does not load on the social factor. Finally, in Japan we find the security item not loading on the economic dimension as hypothesized, instead the variety item is loading on this dimension. In addition, one of the social items (71_B importance of good interpersonal relations) loads on the expressive dimension and not on the social, and the autonomy and learning items do not load on the expressive dimension as hypothesized.

The measurement properties can be summarized as unsatisfactory (Table 7). This is

especially the case for the measurement of Work Centrality, Social Goals, and Economic Goals. The Expressive Goals and Pay Goals measures, although a little better, still do not satisfy current standards.

The above mentioned measurement problems are finally reflected in the fit statistics for the hypothesized model in the 12 countries (table 8). Scanning the goodness-of fit indices indicates a better fit in the Czech and Slovak Republic and the U.S.A, and the worst fit for Japan. Again, it is not possible to decide whether these are 'real' country differences or consequences of the low measurement quality.

Societal Norms

An exploratory factor analysis for the East & Central European Sample led to a *first factor (Societal Norms)* which showed significant loadings of all eight societal norms items. Generally somewhat stronger loadings are shown by the entitlement items: 'a job should be provided for everybody' (Q73_I), 'entitlement to interesting and meaningful work for everybody' (Q73_G), 'entitlement to participation' (Q73_E), and 'employers responsibility for retraining' (Q73_A) as compared to the obligation items: 'duty of everybody to work'(Q73_B),'responsibility to save for the future'(Q73_D), 'accept monotonous or simplistic work, as long as pay compensates fairly for it' (Q73_H), and ' value their work independent of its nature' (Q73_J). This factor marks a significant difference from former findings in Western societies and in Japan. The two factor solution, with separate dimensions for the obligation and entitlement norms could not be replicated with the Eastern European sample.

To further examine the empirical structure of the societal norm construct a series of confirmatory factor analysis by country using the LISREL VII computer program were conducted. For each country we estimate two measurement models. The first model hypothesizes that two factors (the obligation and the entitlement dimension) underlie the data. The second model hypothesizes that only one factor underlies the data, thus implies that the two factors are not independent or part of the same construct.

The results of the confirmatory factor analyses (table 9) indicate that there are differences between the countries. In some countries the social norms constructs (obligation and

entitlement) are independent in others they are not.

While the two-factor model shows the better fit compared to both the Null model and the one-factor model in Flanders (Belgium),the U.S.American., Dutch, German, and Japanese sample, the one-factor model showed the better fit in case of Slovenia, the Slovak Republic, Israel, Poland, the Czech Republic, Hungary, and Bulgaria. These results are based on the TLI indices testing both, the one-factor solution and the two-factor solution against the null model (TLI). The same result is achieved by testing the one-factor model against the two-factor model (tli) In addition, all other reported goodness-of fit indices (Chi-square, AGFI, and RMRS) go always in the same direction confirming the results of the model test.

In summary, a one-factor solution, combining obligation and entitlement norms, is confirmed for the Bulgarian, Czech, Slovak, Hungarian, Slovenian and Israeli samples. The structure of the societal norms is common among the Eastern and Central European and the Israeli samples, but distinct from the structure found in Western societies and Japan.

Limitations, Contribution and Recommendation for Future Research

The chapter intended to serve two purposes. First, to demonstrate how confirmatory factor analysis can be applied in cross- national or cross-cultural research to explore measurement adequacy of the constructs and structural similarity or identity of the dimensions. We want to stress that these are essential pre-conditions for any interpretations of data collected in different societies. Second, the intend was to use this method to test the conclusions of the MOW International research group concerning the validity their research model.

Given our results the analysis undertaken can only be seen as exploratory, suggesting new hypotheses which should and can be tested with the suggested structural equation modelling approach . To this point no evidence for obvious national differences in the work goal dimensions could be identified, although given the measurement properties they also cannot definitely be excluded.

The presented results indicate that all scales and indices suggested by the MOW International

Research Team need improvement. In principle, this should be feasible as our suggestions indicated.

The *Pay Goal dimension* can be seen as universal across our samples. Extending the scale by two or three additional items and using a common answering format should lead to a scale with acceptable reliability, which can be translated into different languages and used in different countries. A better *Work Centrality* measure can be build based on the items of the work involvement scale by Lodahl and Kejner (1965). Here we suggested to reformulate the items, to follow Kanungo's (1982) remark which distinguishes the current job from working in general. If the formulation refers to working and work instead of job where appropriate, the respondent can be focused on working as life activity like intended in the MOW approach. Improved scales for the *social, expressive* and the *economic goal dimensions* can be derived by making the scales more homogenous, thus concentrating on the core of the concept or building sub-scales which an sufficient item number for the different notions.

In the second part, we demonstrated the presence of structural dissimilarities between the countries for the *societal norm concept*. While the obligation and entitlement orientation formed two dimensions in some of the countries, these dimensions were highly correlated in other countries, making the dimensions not separable and thus distinct. Given the importance of the societal norms concept for the social contract, employee expectations, entitlements and obligations, the observed structural difference between the East and Central European countries, and Israel on the one hand and the Western European countries and Japan on the other offer an interesting hypotheses to be explored in more depth.

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Table 1 Sample Sizes

WEST EUROPE	N
Flanders (Belgium)	897
Germany	699
Netherlands	907
Portugal	890
EAST & CENTRAL EUROPE	
Bulgaria	1192
Czech. Rep.	903
Hungary	1256
Poland	1023
Slovakia	624
Slovenia	542
AMERICA	
U.S.A.	856
ASIA	
Japan	1131

Table 2: LISREL Estimates of Work Goals Economic Factor loadings in 12 Countries

Economic goals	COUNTRY[1]											
	FL	GE	NE	PO	BU	CZ	HU	PL	SK	SN	US	JA
71_J Good physical working conditions (such as light, temperature, cleanliness, low noise level)	.19	.34	.41	.33	.39	.27	.30	.51	.33	.33	.39	.34
71_D Convenient work hours	.24	.30	.34	..55	.35	.34	.28	.45	.44	.44	.84	.51
71_G Good job security	.60	.62	.60	0	.60	.39	.55	.34	.45	.45	0	0
71_C Good opportunity for upgrading or Promotion	.36	.50	.40	0	0	.15	0	.15	0	0	0	.57
non hypothesized items												
71_I Good Pay							.90					
71_B Good Interpersonal relations (supervisor, co-workers)				.42								

[1] FL=Flanders, GE=Germany, NE=Netherlands, PO=Portugal, BU=Bulgaria,CZ=Czech Republic, HU=Hungary, PL= Poland, SK= Slovakia, SL= Slovenia, US= United Sates, JA= Japan.

Table 3: LISREL Estimates of Work Goals Pay Factor loadings in 12 Countries

Pay related goals	COUNTRY[2] FL	GE	NE	PO	BU	CZ	HU	PL	SK	SN	US	JA
67_2 Working provides you with an income that is needed	.61	.62	.59	.42	.37	.64	.48	.48	.57	.54	.59	.65
69_F The money I receive from my work	.69	.82	.84	.70	.44	.72	.79	.51	.74	.76	.65	.64
71_I Good Pay	.80	.67	.77	.61	.74	.66	0	.64	.70	.67	.66	.54

[2] FL=Flanders, GE=Germany, NE=Netherlands, PO=Portugal, BU=Bulgaria,CZ=Czech Republic, HU=Hungary, PL= Poland, SK= Slovakia, SL= Slovenia, US= United States, JA= Japan.

Table 4: LISREL Estimates of Work Goals Social Factor loadings in 12 Countries

Social goals	COUNTRY[3] FL	GE	NE	PO	BU	CZ	HU	PL	SK	SN	US	JA
67_4 Working permits you to have interesting contacts with other people	.57	.53	.56	.27	.05	.32	.35	.27	.28	.21	.56	.50
69_D The type of people with whom I work	.45	.70	.63	.80	.16	.62	0	.64	.52	.41	.38	.60
71_B Good Interpersonal relations (supervisor, co-workers)	.40	.22	.39	0	.85	.35	.38	.33	.29	.41	.41	0

[3] FL=Flanders, GE=Germany, NE=Netherlands, PO=Portugal, BU=Bulgaria,CZ=Czech Republic, HU=Hungary, PL= Poland, SK= Slovakia, SL= Slovenia, US= United States, JA= Japan.

Table 5: LISREL Estimates of Work Goals Expressive Factor loadings in 12 Countries

Expressive Goals	COUNTRY[4] FL	GE	NE	PO	BU	CZ	HU	PL	SK	SN	US	JA
71_F Interesting work (work that you really like)	.41	.58	.57	.51	.71	.46	.43	.50	.40	.54	.53	.55
71_K A lot of Autonomy (you decide how to do yor work)	.28	.27	.35	.40	.32	.48	.45	.28	.39	.26	.40	0
71_E A lot of variety	.57	.36	.33	.58	0[5]	.46	.56	.46	.45	.61	.55	0
71_H A good match between your job requirements and your abilities and experience	.09	.42	.40	.37	.36	.44	0	.29	.33	.30	.04	.50
71_A A lot of opportunity to learn new things	.45	.32	.38	.40	0[2]	.51	.58	.44	.46	.18	0	0
non hypothesized items 71_C Good opportunity for upgrading or Promotion							.38					
71_B Good Interpersonal relations (supervisor, coworker)												.63

[4] FL=Flanders, GE=Germany, NE=Netherlands, PO=Portugal, BU=Bulgaria,CZ=Czech Republic, HU=Hungary, PL= Poland, SK= Slovakia, SL= Slovenia, US= United States, JA= Japan.

[5] In Bulgaria 71_A Learning, 71_E Variety and 71_C Promotion form a seperate factor.

Table 6: LISREL Estimates of Work Centrality factor loadings in 12 countries

Work Centrality	COUNTRY[6]											
	FL	GE	NE	PO	BU	CZ	HU	PL	SK	SN	US	JA
70 Absolute Work Centrality	.57	.50	.66	.43	.48	.49	.39	.67	.57	.35	.64	.42
68_3 Relative Work Centrality	.39	.76	.40	.35	.32	.27	.53	.37	.26	.82	.48	.41

[6] FL=Flanders, GE=Germany, NE=Netherlands, PO=Portugal, BU=Bulgaria,CZ=Czech Republic, HU=Hungary, PL= Poland, SK= Slovakia, SL= Slovenia, US= United States, JA= Japan.

Table 7: Index and Scale Reliabilities[7]

	Work Centrality	Expressive	Economic	Pay	Social
WEST EUROPE					
Flanders (Belgium)	.36	.43 (-H .45)	.40 (-C .46)	.74	.50
Germany	.59	.47	.48	.75	.45 (-B .50)
Netherlands	.43	.50	.47 (-C .50)	.78	.55
Portugal	.11	.59	.28 (-C .33)	.53	.26 (-C .34)
EAST & CENTRAL EUROPE					
Bulgaria	.27	.59	.37 (-C .47)	.54	.20 (-B .30)
Czech. Rep.	.23	.58	.26 (-C .35)	.67	.34
Hungary	.22	.58 (-H .59)	.36 (-C .44)	.53	.29
Poland	.35	.48	.35 (-C .37)	.51	.27
Slovakia	.27	.49	.28 (-C .35)	.67	.27
Slovenia	.42	.39 (-A .45)	.29 (-C .42)	.70	.26 (-4 .30)
AMERICA					
U.S.A.	.47	.48 (-H .53)	.48 (-C .49)	.69	.44
ASIA					
Japan	.31	.36 (-E .41)	.46 (-G .48)	.64	.24 (-B .46)
RANGE (alpha)	.11-.47	.39-.59	.28-.48	.51-.75	.20-.55
AVERAGE (alpha)	.34	.50	.37	.65	.34

[7] In brackets the resulting scale and index alphas are given if if the listed item is deleted.

Table 8: Fit of Hypothesized and Independent Model[8]

Fit Statistic	Flanders	Germany	Netherlands	Portugal	Bulgaria	Czech Rep.	Hungary
Hypothesized Model							
Chi-Square	454.51	446.67	571.85	331.54	583.89	325.69	460.35
df	108	108	108	79	103	108	79
X^2/df	4.20	4.13	5.30	4.20	5.67	3.02	5.83
GFI	.93	.91	.92	.95	.95	.96	.96
AGFI	.90	.87	.89	.93	.92	.94	.94
RMSR	.060	.071	.063	.056	.054	.044	.048
NFI	.73	.70	.76	.74	.75	.82	.82
TLI	.72	.68	.74	.72	.71	.83	.79
Null Model							
Chi-Square	1707.89	1473.46	2349.17	1292.74	2319.84	1781.40	
df	136	136	136	105	136	136	
X^2/df	12.55	10.83	17.27	12.31	17.06	13.10	

[8] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; NLI= Normed-fit-index; TLI = Tucker-Lewis index: One-factor against NULL model.See text for further explanation of the used goodness-of-fit indices.

Table 8 (continnued): Fit of Hypothesized and Independent Model[9]

Fit Statistic	Poland	Slovak Rep.	Slovenia	U.S.A.	Japan
Hypothesized Model					
Chi-Square	553.41	242.47	381.79	188.14	473.19
df	108	108	108	66	66
X^2/df	5.12	2.25	3.54	2.85	7.17
GFI	.94	.96	.91	.97	.94
AGFI	.92	.94	.88	.94	.90
RMSR	.056	.044	.072	.048	.066
NFI	.68	.80	.63	.84	.73
TLI	.68	.84	.61	.84	.66
Null Model					
Chi-Square	1719.28	1203.51	1021.89	1173.92	1722.07
df	136	136	136	91	91
X^2/df	12.64	8.85	7.51	12.90	18.92

[9] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; NLI= Normed-fit-index; TLI = Tucker-Lewis index: One-factor against NULL model.See text for further explanation of the used goodness-of-fit indices.

Table 9: Confirmatory Factor Analysis Results for Societal Norms[10]

Model	Chi-Square	df	X^2/df	GFI	AGFI	RMRS	TLI	tli
Flanders								
NULL	305.57	28	10.91	.908	.882	.058	--	--
1-Factor	131.18	20	6.56	.959	.927	.043	.439	--
2-Factor	52.96	20	2.65	.985	.973	.023	.834	.703
Germany								
NULL	462.86	28	16.53	.834	.786	.099	--	--
1-Factor	227.86	20	11.39	.912	.841	.076	.331	--
2-Factor	99.19	20	4.96	.964	.935	.044	.745	.619
Israel								
NULL	333.83	28	11.92	.894	.863	.067	--	--
1-Factor	89.97	20	4.50	.975	.955	.039	.679	--
2-Factor	178.27	20	8.91	.952	.913	.051	.276	-1.3

[10] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; TLI = Tucker-Lewis index: One-factor against NULL model and two-factor against NULL model; tli = Tucker-Lewis index: One-factor model against two-factor model.

Table 9: Confirmatory Factor Analysis Results for Societal Norms (continued)[11]

Model	Chi-Square	df	X^2/df	GFI	AGFI	RMRS	TLI	tli
Japan								
NULL	423.85	28	15.14	.894	.864	.047	--	--
1-Factor	125.00	20	6.25	.969	.945	.025	.629	--
2-Factor	100.49	20	5.03	.978	.960	.025	.716	.234
Netherlands								
NULL	378.05	28	13.50	.896	.867	.072	--	--
1-Factor	207.61	20	10.38	.939	.890	.064	.250	--
2-Factor	70.86	20	3.54	.981	.965	.028	.797	.729
U.S.A.								
NULL	329.31	28	11.76	.897	.868	.063	--	--
1-Factor	77.35	20	3.87	.977	.958	.030	.733	--
2-Factor	56.10	20	2.81	.984	.971	.026	.832	.369

[11] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; TLI = Tucker-Lewis index: One-factor against NULL model and two-factor against NULL model; tli = Tucker-Lewis index: One-factor model against two-factor model.

Table 9: Confirmatory Factor Analysis Results for Societal Norms (continued)[12]

Model	Chi-Square	df	X^2/df	GFI	AGFI	RMRS	TLI	tli
Slovenia								
NULL	259.70	28	9.28	.860	.820	.062	--	--
1-Factor	42.13	20	2.11	.980	.964	.019	.866	--
2-Factor	110.82	20	5.54	.953	.916	.043	.451	-3.1
Bulgaria								
NULL	1226.00	28	43.79	.755	.685	.082	--	--
1-Factor	268.18	20	13.41	.946	.903	.031	.710	--
2-Factor	478.49	20	23.93	.921	.859	.058	.464	-.85
Czech. Rep.								
NULL	809.39	28	28.91	.771	.705	.111	--	--
1-Factor	128.87	20	6.44	.968	.943	.035	.777	--
2-Factor	326.65	20	16.33	.928	.870	.079	.435	-1.5

[12] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; TLI = Tucker-Lewis index: One-factor against NULL model and two-factor against NULL model; tli = Tucker-Lewis index: One-factor model against two-factor model.

Table 9: Confirmatory Factor Analysis Results for Societal Norms (continued)[13]

Model	Chi-Square	df	X^2/df	GFI	AGFI	RMRS	TLI	tli
Slovak Rep.								
NULL	617.88	28	22.07	.743	.670	.107	--	--
1-Factor	54.70	20	2.74	.981	.965	.024	.876	--
2-Factor	205.86	20	10.29	.937	.887	.074	.534	-2.8
Hungary								
NULL	1035.88	28	37.00	.777	.713	.072	--	--
1-Factor	155.87	20	7.79	.970	.946	.019	.811	--
2-Factor	381.69	20	19.09	.936	.884	.051	.500	-1.7
Poland								
NULL	1319.70	28	47.13	.676	.583	.143	--	--
1-Factor	122.36	20	6.12	.972	.950	.028	.889	--
2-Factor	487.17	20	24.36	.910	.839	.103	.494	-.36

[13] df= degrees of freedom; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMRS = root mean square residual; TLI = Tucker-Lewis index: One-factor against NULL model and two-factor against NULL model; tli = Tucker-Lewis index: One-factor model against two-factor model.

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